CONTENTS.

PAGE

The Lubrication of Pre-Selective Gear Boxes. A. T. Wilford 1

The Vaporization of Fuels for Gas Turbines. Part II. Heat Quantities Required to Vaporize Gas Turbine Fuels. B. P. Mullins. 44

Viscometry of Soap-in-Hydrocarbon Systems. G. F. Wood, A. H. Nissan and F. H. Garner 71

Spectroscopic Analysis : Application of the Hydrogen Discharge Lamp to the Analysis of Mixtures of C_9 Aromatic Hydrocarbons. R. R. Gordon, H. Powell and J. Tadayon 103

Second Report on Tests for Soil Stabilization. Soil Stabilization Panel of Standardization Sub-Committee No. 7, Asphaltic Bitumen 113

Obituary : **Ashley Carter** 129

Campbell Murray Hunter 129

Fires and Explosions at Oil Installations. E. P. Lancashire 131

Fires in Open Tanks of Petroleum Products : Some Fundamental Aspects. J. H. Burgoyne and L. L. Katan 158

Experiments on the Rate of Foam Application to Petrol Fires. N. O. Clark, E. Thornton and J. A. Lewis 192

Measurement of Oil Depths 202

Petroleum Products in Agriculture : The Rôle of Petroleum in Plant Protection. L. W. Leyland Cole 203

The Application of the Principles of Clay Chemistry to Problems Encountered when Drilling in Trinidad Clays. H. C. H. Darley 219

The Crude Oil of England. J. S. Parker 230

Explosive Decomposition of Ethene. H. I. Waterman, W. J. Heessels, and J. van Steenis 254

The Oxygen Boost Method of Rating the Engine Performance of Aviation Fuels. W. B. Heaton, T. K. Hanson, and R. C. Morris 256

Obituary : **Leo Steinschneider** 266

Walter Bernoulli 266

Fuels and Lubricants for Aero Gas Turbines. C. G. Williams 267

Naphthenic Acids : Boiling Points and Distribution in Gas Oil Distillates. K. F. Coles 325

Thirty-Third Annual General Meeting 330

Obituary : **Frederick Byron Plummer** 341

Francis Arthur Flinn 341

Modern Developments in Geophysical Prospecting. Ir. A. Van Weelden . . 344

The Application of a New Notation to Petroleum Hydrocarbons. G. Malcolm Dyson 356

The Chemical Aspects of the Petroleum Acts. S. G. Burgess 363

Obituary : **Lewis Boswell Inman Hamilton** 389

Cadman Memorial Lecture. Progress in Petroleum Research. Robert Price Russell 391

PAGE

Aromatics from Petroleum. H. Steiner 410

Hydrocarbon Synthesis in the Presence of Cobalt Catalysts at Medium Pressures. C. C. Hall and S. L. Smith 439

Obituary : **Sir Thomas Henry Holland** 460

Development of Hydrogenation and Fischer-Tropsch Processes in Germany. K. Gordon 469

Improved Method for the Interpretation of Experimental Data obtained in Molecular Weight Determinations of Petroleum Fractions. J. G. Reynolds . . 491

The Ten Dimethylnaphthalenes, their Physical Properties, Molecular Compounds, and Ultra-Violet Spectra. A. S. Bailey, K. C. Bryant, R. A. Hancock, S. H. Morrell and J. C. Smith 503

Some New Extreme Pressure (E.P.) Lubricating Oil Additives containing Chlorine and Sulphur. W. Davey 527

Petroleum Products in the Printing Ink and Allied Industries. A. C. Healey and L. Ivanovszky 531

The Oxidation of Transformer Oil. P. M. Heertjes, C. D. Ten Have and J. J. Lock 552

A New Method for the Presentation of Test Results on the Four Ball Machine. W. Davey 574

Reference Fuels for Knock Ratings in Spark Ignition Engines 578

The Institute of Petroleum Hydrocarbon Research Group: Review of Progress, 1945 to 1947 580

Special General Meeting 583

Obituary : **Cecil Evelyn Keep** 588

The Effect of Sulphur and Phosphorus on Aviation Fuel Performance. T. K. Hanson and K. F. Coles 589

Automatic Control of Refinery Operations. W. S. Ault 598

The Fluid Solids Technique : Application to the Petroleum Industry. E. V. Murphree, E. J. Gohr and A. F. Kaulakis 608

Refining South American Crudes. D. Read and G. Egloff 621

Obituary : **Arthur Hamilton** 648

Aluminium Stearate Gels in Light Hydrocarbon Oils. C. M. Cawley, J. H. G. Carlile, J. G. King, and F. E. T. Kingman 649

The Extreme Pressure (E.P.) Lubricating Properties of Some Bromine and Iodine Compounds, Alone and in Presence of Sulphur, with Observations on the Mechanism of the Development of E.P. Properties. W. Davey 673

Liquid Fuels and Chemical Products from Coal. F. H. Garner 678

Solvent Extraction of Indene and Coumarone from Coal Tar Light Oils. A. W. Gauger and J. N. Breston 687

Obituary : **Alfred Reginald Code** 693

The Alkylation of *iso*Paraffins with Olefins in the Presence of Sulphuric Acid. Part I. The Composition of an Aviation Alkylate. Frank Morton and Alan R. Richards 697

Aluminium Stearate Gels for use as Flame-Thrower Fuels. C. M. Cawley, J. H. G. Carlile, J. G. King, and F. E. T. Kingman 721

Author Index 756

Name Index 759

Subject Index 762